INDEX

DIFFERENTIAL EQUATIONS Volume 9, Numbers 1-12, 1973



DIFFERENTIAL EQUATIONS

Volume 9, Numbers 1-12, 1973

(A translation of Differentsial'nye Uravneniya)

A

Abrashin, V. N. -829, 1558, 1682
Abregov, M. Kh. -3
Akhmerov, R. R. -606
Alekseenko, M. I. -155
Aliev, R. G. -559
Alimov, Sh. A. -364, 415, 509
Amatov, M. A. -1486
Andreev, A. F. -601
Anikeeva, L. D. -563
Arkhipov, B. M. -1492
Azbelev, N. V. -1481

B

Baderko, E. A.-1104, 1267 Baidosov, V. A. -899 Barbashina, E. E.-417 Bartashevich, D.-714 Begalishvili, G. M.-613 Bel'tyukov, B. A.-699 Belykh, V. N. -309, 453 Belyustina, L. N. -309, 453 Bibikov, Yu. N.-1629 Bitsadze, A. V. -305, 1621 Blagodatskikh, V. I.-277, 319, 1627, 1640 Bogolyubov. N. N. -305 Boikov, I. V.-1149 Bol'shakov, N. E. -279 Boltyanskii, V. G.-1043, 1341 Bryukhanov, V. A.-129 Bulaevskaya, F. G.-371 Burganskaya, L. I.-284, 1324 Butenina, N. N. -1170 Butuzov, V. F. -1274 Bykov, Ya. V. -267, 745, 903, 1173, 1197, 1597, 1726 Bykova, L. Ya.-1197 Bzhikhatlov, Kh. G.-125

C

Chebykin, L. S. -887 Cheran, S. É. -302, 1165 Cherednichenko, V. G. -254 Cherevichnyi, P. T. -598 Cherkas, L. A. -1099 Churin, Yu. V. -819, 989

D

Darevskii, V. M.—1280 Dezin, A. A.—18 Didenko, V. P.—135 Dmitriev, A.—462 Dobrynskii, V. A.—425 Dolgii, Yu. F.—427 Drakhlin, M. E.—1718 Dzhuraev, T. D.—24

E

Egorov, I. G. -183
Egorov, V. P. -871
Egorov, V. Ya. -1516
Egupov, N. D. -462
Elubaev, S. -1289
Ermakov, V. D. -138
Erofeenko, V. T. -1005, 1115, 1267
Erugin, N. P. -305, 719, 740
1621
Evsin, V. D. -31

F

Filippov, A. F.—1453 Filiptsov, V. F.—359, 983 Finkel'shtein, A. V.—324 Fokht, A. S.—1761 Fomina, N. D.—745 Froim, V. Kh.—405

Evzerov, I. D.-174

G

Gabasov, R.-411
Gaiduk, S. I.-376
Gaishun, I. V.-282, 1729
Ganzhela, N. F.-1694
Gasinskaya, E. F.-1049
Gasonov, K. K.-566
Gel'fand, I. M.-1193
Gershtein, V. M.-420
Gichev, T.-1059, 1202
Glyuzman, A. M.-423
Gol'dberg, V. N.-1407

Golubova, V. A.—996
Gor'kov, Yu. P.—221
Gorokhovik, S. Ya.—1327
Grebenikov, E. A.—1567
Gromak, V. I.—1599
Groza, L. A.—1068
Grudo, E. I.—161, 1210
Gudkov, V. V.—868
Gurtovnik, A. S.—624
Gustomesov, V. A.—918, 1076
Gvadava, D. K.—13

I

Il'in, V. A. -38
Isakov, V. M. -38
Ivanov, E. A. -1305
Ivrii, V. Ya. -227
Izobov, N. A. -760

K

Kalashnikov, A. A.-1698 Kalashnikov, A. S. -518 Kalinin, A. I. -435 Kal'menov, T. Sh. -63 Kalyabin, G. A. -723 Kamal' Akhmed Dib -1087 Kamenev, I. V. -286, 440 Kamenskii, G. A.-1501 Karasev, I. M.-143 Karvchenko, V. G. -290 Kastritsa, O. A. -775, 1034, 1732 Keleinikova, G. I. -297 Khapaev, M. M. -1551 Khokhryakov, A. Ya. -1478, 1492 Kiosa, M. N.-1567 Kirii, K. A. -903 Kirillova, F. M.-411 Kirlitsa, V. P. -726 Klimov, V. S. -384, 1417 Klokov, Yu. A. -911, 1093 Kochetov, N. N. -699 Kochubei, A. N.-1233 Kolmanovskii, V. B.-1347 Kol'tsova, K. D.-1330

Kondratenya, S. G.—198, 932, 1226, 1355
Konoplyanik, I. A.—1735
Kopots, M. M.—1332
Korobov, V. D.—466
Kotko, L. A.—234
Kovrizhkin, V. V.—73
Kozlovskaya, T. D.—632
Krakhotko, V. V.—202
Krasnov, V. A.—1761
Krechetov, G. S.—729, 878, 1472
Krechko, I. G.—1178

V

Kroshko, I. G.—1178 Kuleshov, A. A.—569, 677, 840 Kumykova, S. K.—80 Kuznetsov, V. P.—1739 Kyun, O. D.—470

L

Labovskii, S. M. -1481 Ladis, N. N. -938, 1741 Lamanova, L. G.-443 Lando, Yu. K. -1714 Lanin, D. N. -146 Lanina, T. D. -87 Laptinskii, V. N. -732, 1745 Lar'kin, N. A. -149 Lepin, A. Ya. -475 Leskovskii, I. P. -93, 293 Levitin, R. S. -335 Lezhnev, V. G.-389 Linenko, V. G.-267 Lisitsin, B. M.-1703 Lisitsin, E. M.-1703 Liskovets, D. A. -1157, 1422 Lobodzinskaya, I. G. -1601 Lossievskaya, T. V.-848, 1011 Lukashevich, N. A. -344 Lutsenko, A. V.-1181 Lyapin, L. N. -1163 Lychak, M. M. -478

M

Magomedov, G. M.—860
Makareva, V. V.—1305
Makhmedzhanov, N.—876
Maksimov, V. P.—781, 1718
Malikov, Kh. M.—1749
Malyshev, Yu. V.—1363, 1644
Mamedov, Yu. A.—526
Marchenko, V. M.—1605
Markina, A. M.—572, 1036
Martynov, D. P.—1368
Martynyuk, N. D.—1466
Matatov, V. I.—344, 1608, 1751
Meilakhs, A. M.—1754
Meredov, M.—1017
Mergelayn, S. N.—1193

Mirzov, D. D.-447
Mishchenko, E. F.-1377
Moerkov, S. M.-1239
Moiseev, E. D.-685
Mokeichev, V. S.-1334
Mokhon'ko, V. D.-1185
Mordukhovich, B. Sh.-553
Mukhametzyanov, I. A.-642,
791, 1382, 1522
Myshkis, A. D.-579, 1501

N

Nakhushev, A. M.-1, 98
Nazarov, E. A.-736
Naziev, E. Kh.-297
Neimark, Yu. I.-624
Nemish, Yu. N.-738
Nevostruev, L. M.-244
Nikolachuk, A. M.-290
Nikol'skii, S. M.-740
Nikonenko, V. V.-1391
Novikov, V. L.-651

0

Odarich, O. N.-484
Ogandzhanyan, V. G.-1585
Okhrimenko, M. G.-1757
Oleinik, O. A.-1193
Olekhnik, S. N.-1530, 1648
Oreshchenko, L. G.-948
Osipenko, G. S.-881
Osipov, A. V.-884
Ostrovskii, G. M.-324

P

Pais, E. A.-1311 Parshikova, N. P.-575 Pashkovskii, V. D. -578 Perestyuk, N. A.-1466 Petrenko, T. Yu. -955 Petrov, N. N. -654, 808, 1246, 1611 Petrovskii, G. N. -775, 1034 Pilyugin, S. Yu. -491, 815, 964, 1653 Pleshkan, D. D.-1396 Plotnikov, A. A. -717 Plyushchev, Yu. V.-581 Plyshevskaya, T. K.-1218 Polishchuck, V. M.-1253 Ponomarev, N. T.-1023 Ponomarev, V. D. -475, 1661 Portnov, V. R.-1316 Pospelov, L. N. -1093 Prilepko, A. D. -103 Prokop'ev, V. P. -299 Prolisko, E. G.-198, 584 Pyatinskii, E. S. -968

R

Ragimkhanov, R. K.—1188
Rakhmanov, A.—24
Rakhmatullina, L. F.—660, 781, 1718
Ramm, A. G.—706, 1593
Raskin, V. G.—588
Rastrenin, V. A.—1710
Ratyni, A. K.—349
Reinfel'd, A. A.—356
Reizin, L. É.—191, 1665
Rodkina, A. E.—606
Rozhko, V. F.—1403
Rvachev, V. L.—591, 1694
Rychkov, G. S.—1191

5

Saak, E. M. -1572

Sadovnichii, V. A. -207 Sadovnikov, E. G. -1614 Sadovskii, A. P.-494 Salakhitdinov, M. S. -108 Samoilenko, A. M.-1466 Satimov, N.-1377, 1535, 1673 Saul'ev, V. K. -272 Savchenko, G. B. -401 Shalov, V. M. -692 Shaposhnikova, T. O. -539 Shapovalov, V. P. -890 Sharipova, R. M.-1765 Sharkovskii, A. N. -425, 1253 Shevelo, V. N.-484 Shevtsov, E. I. -1173, 1197, 1726 Shimanov, S. N. -427 Shimon, L. -1140 Shiryaev, V. I.-1618 Shishkin, A. A. -892 Shishova, T. Ya. -978 Shkil, N. I. -502 Shklyar, B. Sh. -1769 Sibirskii, K. S. -1049, 1396 Sidorenko, A. D. -594 Sidorov, N. A. -1125 Skripnik, V. P. -665, 801 Slesarenko, A. P.-591 Smirnov, M. M. -1576 Smirnova, V. B.-114 Sobolevskii, P. E.-174 Soldatov, A. P. -248 Sorokina, N. G.-122 Stadnikova, L. V.-1181 Strakhov, V. N.-1431 Sulima, L. P.-669, 1038, 1543 Suveika, J. V.-1028

T

Terent'ev, A. G. -660, 978

Terletskii, V. V.-502
Tikhonenko, L. Ya.-1475
Tiunchik, M. F.-1509
Tobias, T.-534
Tolipov, A.-108
Tonkov, E. L.-212, 1677
Tonkova, V. S.-212
Trigubovich, L. V.-1040
Tsalyuk, V. Z.-1615
Tuzhilin, A. A.-1442, 1580
Tyshkevich, V. A.-927

V

Vainberg, N. G. M.-1501

Vakul'chik, P. A.—829, 1682 Vasil'ev, N. I.—911 Vasil'eva, A. B.—717 Vishnyakov, A. F.—755 Voilokov, V. D.—619 Volin, Yu. M.—324 Volkov, E. A.—545 Vragov, V. N.—132

Y

Yablonskii, A. D.-1355 Yakovlev, G. N.-740 Yanushauskas, A.-154, 262 Yuzbashev, G. L.-1337

Z

Zabello, L. E.-430
Zainulabidov, M. M.-140
Zakharitkin, M. Kh.-432
Zarubin, A. G.-1509
Zavalishchin, S. T.-873
Zhechev, I. I.-1149
Zhivoglyadova, L. V.-1173, 1597
Zubko, Yu. D.-927
Zubov, V. I.-284, 1176, 1481
Zvorkin, A. M.-329



DIFFERENTIAL EQUATIONS Volume 9, Numbers 1-12, 1973

(A translation of Differentsial'nye Uravneniya)

Volume 9, Number 1 January, 1973

	Eng.	/Russ.
All-Union Symposium on Problems in Partial Differential Equations		
- A. M. Nakhushev	1	3
PARTIAL DIFFERENTIAL EQUATIONS		
A Problem Concerning Tricomi's Equation - M. Kh. Abregov	3	5
Solutions of Elliptic Equations Degenerate on the Boundary - D. K. Gvazava	13	18
Natural Differential Operators and the Separation of Variables - A. A. Dezin	18	25
Correctly Posed Boundary-Value Problems for Equations of Mixed-State Type		
- T. D. Dzhuraev and U. Rakhmanov	24	32
Holmgren's Problem for an Equation with Singular Coefficients - V. I. Evsin	31	41
Conditions for the Convergence of Spectral Expansions Corresponding to Self-Adjoint		
Extensions of Elliptic Operators. IV. Theorems of Negative Type for an		
Arbitrary Extension of a General Self-Adjoint Second-Order Elliptic Operator	20	40
- V. A. Il'in	38	49
- V. M. Isakov	55	74
A Characteristic Cauchy Problem for a Class of Degenerate Hyperbolic Equations	00	1.2
- T. Sh. Kal'menov	63	84
The Smoothness of Solutions of a Generalized Tricomi Problem - V. V. Kovrizhkin	73	97
Some Boundary-Value Problems with Displacement for the Lavrent'ev-Bitsadze		
Equation - S. K. Kumykova	80	106
Some Problems for Equations of Hyperbolic and Mixed Type - T. I. Lanina	87	115
Some Singular Boundary-Value Problems for a Fuchsian-Class Equation in the Space		
of Generalized Functions - I. P. Leskovskii	93	123
The Regular Formulation of Boundary-Value Problems for Parabolic Equations with a		
Sign-Variable Characteristic Form - A. M. Nakhushev	98	130
A Class of Integral Equations of the First Kind – A. I. Prilepko	103	136
- M. S. Salakhitdinov and A. Tolipov	108	142
Asymptotic Properties of Solutions of a Problem with a Discontinuous Nonlinearity	100	142
- V. B. Smirnova	174	149
Energy Relations for Multidimensional Equations of Mixed Type - N. G. Sorokina	122	158
BRIEF COMMUNICATIONS		
A Boundary-Value Problem with Displacement – Kh. G. Bzhikhatlov	125	162
A Class of Elliptic Equations Degenerate on the Boundary – V. A. Bryukhanov	129	166
An Equation of Mixed-Composite Type – V. N. Vragov	132	169
Some Boundary-Value Problems for Multidimensional Equations of Mixed Type		-00
- V. P. Didenko	135	172
Critical Points of Green's Harmonic Function outside a Region Homeomorphic to a		
Sphere - V. I. Ermakov	138	175
An Equation Whose Order is Degenerate on a Curve where the Type Varies		
- M. M. Zainulabidov	140	177

	Engl./	Russ.
Solvability of Dirichlet's Problem in the Spaces $C^{(\alpha)}(G)$ and $L^{(\alpha)}_q(G) - I$. M. Karasev Cauchy's Problem for a Class of Fourth-Order Equations – I. N. Lanin	143 146	180 183
Cauchy's Problem for a Degenerate Hyperbolic Equation - N. A. Lar'kin	149	186
- A. Yanushauskas	152	189
LETTERS TO THE EDITOR	154	192
Volume 9, Number 2 February, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
The Unique Solvability of Linear Periodic Boundary-Value Problems — M. I. Alekseenko	155	203
Zero Roots - É. I. Grudo	161	211
The Solvability of a Boundary-Value Problem - V. V. Gudkov and A. Ya. Lepin Fractional Powers of Ordinary Differential Operators - I. D. Evzerov	168	220
and P. E. Sobolevskii	174	228
- I. G. Egorov	183	241
and L. E. Reizin'	191	251
Singularity - S. G. Kondratenya and E. G. Prolisko	198	260
The Relative Controllability of Systems with Distributed Time-Lag - V. V. Krakhotko. Uniqueness of a Solution of the Inverse Problem of Spectral Analysis for a Differential	202	265
Equation with Periodic Boundary Values - V. A. Sadovnichii Some Properties of Averaged Solutions of a Regularization System with a Discontinuous	207	271
Nonlinearity - V. S. Tonkova and E. L. Tonkov	212	278
Behavior for t → ∞ of Solutions of Cauchy's Problem for a Second-Order Quasilinear		
Parabolic Equation - Yu. P. Gor'kov	221	290
A Class of Nonstrictly Hyperbolic Operators - V. Ya. Ivrii	227	299
when the Region is Varied - L. A. Kotko	234	307
- L. M. Nevostruev	244	320
A Problem in Function Theory - A. P. Soldatov Inverse Logarithmic-Potential Problems with an Analytic Density	248	325
- V. G. Cherednichenko	254	333
- A. Yanushauskas FINITE-DIFFERENCE EQUATIONS	262	343
The Stability of Solutions of Total-Difference Equations - Ya. V. Bykov and V. G. Linenko	267	349
Further Comments on the Absolute Stability of Explicit Difference Schemes - V. K. Saul'ev	272	355
BRIEF COMMUNICATIONS		
Local Controllability of Differential Inclusions - V. I. Blagodatskikh The Role of Perron's Irregularity Coefficient in the Stability of a Two-Dimensional	277	361
System with Respect to a First Approximation - N. E. Bol'shakov A Remark Concerning the Stability in the Large of Solutions of a Nonlinear System	279	363
- L. I. Burganskaya and I. V. Gaishun	282	366

	Engl.	Russ.
Controls in Pursuit Problems - V. I. Zubov	284	368
of a "Principal" Solution - I. V. Kameney	286	370
- V. G. Kravchenko and A. M. Nikolachuk	290	374
- I. P. Leskovskii	293	377
of Second-Order Dynamic Systems — É. Kh. Naziev and G. I. Keleinikova	297	381
Motion Stability in the Critical Case of 2k Roots at the Origin - V. P. Prokop'ev Limit Positions of Osculating Planes of Trajectories of Nonlinear Systems	299	383
S. É. Cheran	302	386
Vasilii Sergeevich Vladimirov (On his Fiftieth Birthday) - N. N. Bogolyubov,		
N. P. Erugin, and A. V. Bitsadze	305	389
Volume 9, Number 3 March, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
A Qualitative Investigation of a Dynamic System on a Cylinder - L. N. Belyustina		
and V. N. Belykh	309	403
A Sufficient Condition for Optimization - V. I. Blagodatskikh	319	416
The Penalty-Function Method and Necessary Conditions for Optimization of Generalized Solutions of an Optimal-Control Equation — Yu. M. Volin,	020	220
G. M. Ostrovskii, and A. V. Finkel'shtein	324	423
Pointwise Completeness of Systems with Delay - A. M. Zverkin	329	430
Uniqueness of O-Curves in a Normal Region of the Second Kind - R. S. Levitin	335	437
Second-Order Systems without Moving Critical Singularities - N. A. Lukashevich		
and V. I. Matatov	344	449
Differential Inequalities for the Sturm-Liouville Problem - A. K. Ratyni	349	456
Topological Equivalence of Differential Equations with Delayed Truncation		
- A. A. Reinfel'd	356	465
Algebraic Integrals of a Differential-Equation System - V. F. Filiptsov	359	469
PARTIAL DIFFERENTIAL EQUATIONS		
Spectral Expansions of Functions of L_0^{α} – Sh. A. Alimov	904	400
Constant Traces and Smoothness Moduli of Traces of Functions of Several	364	477
Variables on Hyperplanes of Various Dimensions – F. G. Bulaevskaya	371	487
A Coupling Problem for Two Different Equation Systems - S. I. Gaiduk	376	494
Positive Solutions of Neumann's Problem for Quasilinear Elliptic Equations	010	404
- V. S. Klimov	384	504
The Decreasing Property of a Solution of a Boundary-Value Problem for Sobolev's	304	304
Equation – V. G. Lezhnev	389	511
A Boundary-Value Problem for a Partial-Differential-Equation System with Constant		
Coefficients - G. B. Savchenko	401	527
Linear Scalar Partial Differential Equations with Regular Singularities on a	405	F00
Hyperplane - V. Kh. Froim	405	533
FINITE-DIFFERENCE EQUATIONS		
Necessary Conditions for Optimization of the Type of Equality in Discrete Systems		
- R. Gabasov and F. M. Kirillova	411	542
BRIEF COMMUNICATIONS		
The Uniform Convergence of Spectral Expansions of Functions of L_{p}^{α}		
- Sh. A. Alimov	415	547

	Engl./	Russ
Necessary Conditions for Kopp-Moyer Optimization in the Case of a Closed		
Control Region – E. E. Barbashina	417	549
Attraction Centers of Dynamic Systems - V. M. Gershtein	420	553
Source Functions of the Laplacian for a Parabolic-Cylindrical Region		
- A. M. Glyuzman.	423	556
Orbitally Stable Trajectories - V. A. Dobrynskii and A. N. Sharkovskii The Stability of a Differential-Equation System with Periodic Delay	425	558
- Yu. F. Dolgii and S. N. Shimanov	427	560
Controllability of Nonstationary Linear Systems - L. E. Zabello	430	563
Conditions for Splitting of the Matrix Telegraph Equations - M. Kh. Zakharitkin	432	565
Necessary Optimization Conditions for Singular Controls - A. I. Kalinin	435	568
A Specifically Nonlinear Oscillation Theorem — I. V. Kamenev	440	574
A New Method of Solving Robin's Problem — L. G. Lamanova	443	577
- D. D. Mirzov	447	581
CHRONICLES		
Communications Presented at the Differential-Equation Section of the Maikop	450	E04
Conference	450	584
Volume 9, Number 4 April, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
The Global Subdivision of Cylindrical Phase Space of a Nonautonomous System		
- L. N. Belyustina and V. N. Belykh	453	595
An Approximate Method of Solving Differential Equations with Polynomial Coefficients		
- N. D. Egupov and A. N. Dmitriev	462	609
Controllability and Stability of Certain Nonlinear Systems — V. I. Korobov Solvability of Linear Boundary-Value Problems for an Equation of Neutral Type	466	614
- O. I Kyun	470	620
Differential Equations - A. Ya. Lepin and V. D. Ponomarev	475	626
Stability and Dissipativity of a Class of Nonlinear Differential Equations		620
- M. M. Lychak	478	630
Differential Equations with Delay — O. N. Odarich and V. N. Shevelo Phase Diagrams of Systems of Differential Equations Satisfying Axiom A	484	637
- S. Yu. Pilyugin	491	647
Discrimination between a Center and a Focus — A. P. Sadovskii	494	650
A Boundary-Value Problem for a System of Ordinary Differential Equations Involving a		
Complex Parameter - N. I. Shkil' and V. V. Terletskii	502	660
PARTIAL DIFFERENTIAL EQUATIONS The Uniform Convergence and Summability of Spectral Expansions of Functions of L_D^{α}		
- Sh. A. Alimov	509	669
Cauchy's Problem in Classes of Increasing Functions for Certain Quasilinear Degenerate		
Parabolic Equations of the Second Order — A. S. Kalashnikov	518	682
Solution of a One-Dimensional Problem for a Parabolic System of Arbitrary Order in		
Unbounded Regions — Yu. A. Mamedov	526	692
The Optimal Cessation of Diffusion Processes and Parabolic Variational Inequalities		
- T. Tobias	534	702
Asymptotic Estimates of the Convergence of the Ritz Method in an Eigenvalue Problem		-
for a Degenerate Elliptic Equation — T. O. Shaposhnikova	539	709

FINITE-DIFFERENCE EQUATIONS Pointwise Estimates of the Accuracy of a Difference Solution of a Boundary-Value		
Problem for an Ordinary Differential Equation — E. A. Volkov	545 553	717 727
BRIEF COMMUNICATIONS		
An Equation with Deviating Argument $-R$. G. Aliev	559 563	735 740
Arguments - K. K. Gasanov	566	743
Systems of Pseudodifferential Equations in \mathbb{R}^n — A. A. Kuleshov	569	747
Moving Singularities of a Differential-Equation System — A. M. Markina	572	751
and N. P. Parshikova	575	754
- V. I. Pashkovskii	578	757
Integration of an Evolutionary Equation in a Banach Space — Yu. V. Plyushchev The Existence of Solutions of Liénard Equations with Moving Algebraic Singularities	581	761
- E. G. Prolisko	584	764
Half-Line — V. G. Raskin	588	768
Connected Regions — V. L. Rvachev and A. P. Slesarenko	591	771
Equations — A. D. Sidorenko	594	774
- P. T. Cherevichnyi	598	778
CHRONICLES All-Union Symposium on Differential and Integral Equations (Dushanbe, 1972)	600	780
Volume 9, Number 5 May, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
The Discrimination Problem for N ₂ in R ⁿ - A. F. Andreev	601	791
and A. E. Rodkina The Optimal-Control Problem with Restrictions on the Phase Coordinates	606	797
- G. M. Begalishvili	613	807
Auto-Oscillations with Arbitrary Periods - V. I. Voilokov	619	815
- A. S. Gurtovnik and Yu. I. Neimark	624	821
Small Parameters Multiplying the Highest-Order Derivatives - T. D. Kozlovskaya	632	832
The Stability of a Programmed Manifold. I - I. A. Mukhametzyanov	642	846
- V. L. Novikov	651	857
The Nonexistence of an Evaluation of a Pursuit Game - N. N. Petrov	654	860
and A. G. Terent'ev The Initial-Function Method for Equations of Highly-Neutral Type - V. P. Skripnik	660	868
The Uniqueness of Nonstationary Singularities of a Single Equation - L. P. Sulima	665 669	874 880

	Engl./	Russ
PARTIAL DIFFERENTIAL EQUATIONS		
Pseudodifferential Operators in R ⁿ . I - A. A. Kuleshov	677	890
Essential and Nonessential Boundary Sets in Neumann's Problem - E. I. Moiseev	685	901
Mechanical Equations for Continuous Media - V. M. Shalov	692	912
IN TEGRAL EQUATIONS		
The Volterra-Equation Method in Eigenvalue Problems with Several Parameters		
- B. A. Bel'tyukov and N. N. Kochetkov	699	922
A Class of Integral Equations - A. G. Ramm	706	931
BRIEF COMMUNICATIONS		
The Qualitative Nature of Real Solutions of Painleve's First Equation		
- D. A. Bartashevich	714	942
Some Critical Cases for Equations of Neutral Type with a Small Delay	212	045
- A. B. Vasil'eva and A. A. Plotnikov	717 719	945
A Necessary and Sufficient Condition for the Spectrum of a Homogeneous Operation to Be	119	341
Discrete in the Matrix Case - G. A. Kalyabin	723	951
Invariance of a Linear System with Delay - V. P. Kirlitsa	726	955
Retention of Asymptotic Stability in the Case of a Single Zero Root - G. S. Krechetov	729	958
Ważewski-Type Inequalities for the System $x^n = A(t)x - V$. N. Laptinskii	732	961
Convergence Properties of Third-Order Differential Equations - E. A. Nazarov	736	965
A Generalization of Three-Dimensional Harmonic Functions - Yu. N. Nemish	738	967
SOVIET SCIENTISTS		
Lev Dmitrievich Kudryavtsev (on His Fiftieth Birthday) - N. P. Erugin,		
S. M. Nikol'skii, and G. N. Yakovlev	740	969
Volume 9, Number 6 June, 1973		
ORDBIADY DISTEDENTIAL FOLIATIONS		
ORDINARY DIFFERENTIAL EQUATIONS On Singular Solutions to Nonlinear Differential Equations, I — Ya. V. Bykov		
and N. I. Fomina	745	983
Construction of the Equations of Stable Programmed Motion of Mechanical Systems	120	000
- A, F. Vishnyakov	755	995
Generalized Euler Integration of a Linear System with Variable Coefficients		
- N. A. Izobov	760	1001
Integral Configurations of Linear Differential Systems - O. A. Kastritsa	775	1019
and G. N. Petrovskii	110	1019
- V. P. Maks imov and L. F. Rakhmatullina	781	1026
The Stability of Programmed Manifolds. II - I. A. Mukhametzyanov		1037
Stability of Certain Systems with Perturbed Arguments - V. P. Skripnik	8:	1049
Some Questions in the Theory of Control in the Plane - N. N. Petrov	808	1058
On Limit Sets of Two-Dimensional Unstable Manifolds in Three-Dimensional Systems of		
Differential Equations - S. Yu. Pilyugin	815	1068
Simple Exceptional Sets of Nonautonomous Quasihomogeneous Systems - Yu. V. Churin.	819	1073
PARTIAL DIFFERENTIAL EQUATIONS		
Difference Schemes of First-Order Accuracy for Quasilinear Hyperbolic Systems. I		
- V. N. Abrashin and P. A. Vakul'chik		1085
Pseudodifferential Operators in R ⁿ , II - A, A, Kuleshov	840	1099
On the Behavior near the Boundary of the Green Functions of the Dirichlet and Neumann	0.40	1100
Problems for a Second-Order Elliptic Equation, I — T. V. Lossievskaya Local and Global Existence Theorems and the Uniqueness of the Solutions of Nonlinear	848	1109
Equations on a Countable Set of Contours — G. M. Magomedov	860	1123

	Engl.	/Russ.
BRIEF COMMUNICATIONS	0.00	1100
A Remark Concerning a Boundary Value Problem - V. V. Gudkov On Uniqueness of Solution to the Generalized Neumann-Tricomi Problem	868	1133
- V. P. Egorov	871	1136
- S. T. Zavalishchin	873	1138
- N. Makhmedzhanov	876	1141
Differential Equation - G. S. Krechetov	878	1143
Removal of a Singularity from a Certain Differential Equation - G. S. Osipenko	881	1146
The Existence of a Transformation to Normal Form - A. V. Osipov	884	1149
Stability of a Nonlinear Third-Order System - L. S. Chebykin	887	1151
Equations - V. P. Shapovalov	890	1154
Perturbations for Systems of Ordinary Linear Differential Equations	892	1156
- A. A. Shishkin	092	1136
LETTERS TO THE EDITOR	897	1161
Volume 9, Number 7 July, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
The Contraction Spectrum of a Generating Operator of an ε-Controllable Linear Dynamic		
System — V. A. Baidosov	903	1171 1177
Solvability of Boundary-Value Problems in the Small — N. I. Vasil'ev and Yu. A. Klokov	911	1187
Investigation of a Relay-Discrete System by the Pointwise Mapping of the Switching Region. I - V. A. Gustomesov	918	1195
The Question of whether Cauchy's Function is Positive — Yu. I. Zubko and V. A. Tyshkevich	927	1207
Systems of Two Differential Equations Having No Solutions with Moving Essential		
Singular Points - S. G. Kondratenya	932	1214
The Topological Equivalence of Linear Flows — N. N. Ladis	938	1222
- L. G. Oreshchenko	948	1236
Properties of Bellman's Function — T. Yu. Petrenko	955	1244
- S. Yu. Pilyugin	964	1256
Uniform Stability under Parameter Perturbations — E. S. Pyatintskii	968	1262
and T. Ya. Shishova	978	1275
Algebraic Limit Cycles - V. F. Filiptsov	983	1281
The Behavior of Solutions of Quasihomogeneous Systems with Only Simple Exceptional Sets — Yu. V. Churin	989	1289
PARTIAL DIFFERENTIAL EQUATIONS		
Differential Equations for the Feynman Integral of a Singular-Energy Diagram		
- V. A. Golubeva	996	1298
Cylindrical and Spherical-Polar Coordinates - V. T. Erofeenko	1005	1310
Equations — T. V. Lossievskaya	1011	1318

	Engl./	Russ.
Goursat's Problem and Darboux's Problem for a Class of Hyperbolic Systems		
- M. Meredov	1017	1326
A Question Concerning the Abstract Cauchy Problem - S. M. Ponomarev	1023	1334
Cauchy's Problem for a Nonstationary Equation - I. V. Suveika	1028	1339
BRIEF COMMUNICATIONS The Relative Location of Integral Tubes of Two Linear Differential Systems		
- O. A. Kastritsa and G. N. Petrovskii	1034	1347
Forms of Nonstationary Singularities of a Differential System - A. M. Markina	1036	1349
A Homogeneous Equation of the Third Order and the Second Degree — L. P. Sulima The Asymptotic Stability of a Second-Order Linear System with Parameters	1038	1351
- L. V. Trigubovich	1040	1352
Volume 9, Number 8 August, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
Support Principle in Problems of Optimal Control — V. G. Boltyanskii	1043	1363
and K. S. Sibirskii	1049	1371
- T. Gichev	1059	1383
Small Parameters for the Highest Derivative — L. A. Groza	1068	1393
II - V. A. Gustomesov	1076	1403
Order Linear Differential Systems — Kamal' Akhmed Dib	1087	1417
Order Equation - Yu. A. Klokov and L. N. Pospelov	1093	1425
Cycles of the Equation $y' = Q_2(x,y)/P_2(x,y) - L$. A. Cherkas	1099	1432
Estimates of the Magnitude of Fundamental Potentials for High-Order Parabolic		
Equations. I — E. A. Baderko	1104	1438
for a Domain Bounded by Cylindrical and Spherical Surface - V. T. Erofeenko	1115	1452
Branching of the Solutions of Differential Equations with a Degeneracy — N. A. Sidorov Approximation of Solutions of Boundary-Value Problems in Unlimited Regions	1125	1464
- L. Shimon	1140	1482
INTEGRAL AND INTEGRO-DIFFERENTIAL EQUATIONS		
Approximate Solution of Singular Integro-Differential Equations. I (Linear Equations)		
- I. V. Boikov and I. I. Zhechev	1149	1493
Summation of Integrals — O. A. Liskovets	1157	1503
- L. N. Lyapin	1163	1511
BRIEF COMMUNICATIONS Bifurcations of Separatrices and Limit Cycles of a Two-Dimensional Dynamical System		
in the Case of Field Rotation — N. N. Butenina	1170	1520
Oscillatory Property - Ya. V. Bykov, L. V. Zhivoglyadova, and E. I. Shevtsov	1173	1523
Optimization of Motions - V. I. Zubov	1176	1525

	Engl./	Russ.
Sufficient Conditions of Stability and Instability in the Sense of Zubov of Invariant		
Manifolds of Differential Systems — I. G. Kroshko	1178 1181	1527 1530
- V. D. Mokhon'ko	1185	1534
with Discontinuous Right-Hand Sides — R. K. Ragimkhanov	1188	1537
- G. S. Rychkov	1191	1540
PERSONALITIES OF SOVIET SCIENCE Rafaél' Aramovich Aleksandryan (On His Fiftieth Birthday) — S. N. Mergelyan, I. M. Gel'fand, and O. A. Oleinik	1193	1543
Volume 9, Number 9 September, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
Sufficient Conditions for Solutions of Nonlinear Differential Equations with Deviating Arguments to be Oscillatory - Ya. V. Bykov, L. Ya. Bykova,		
and E. I. Shevtsov	1197	1555
State, the Perturbations, and the Parameters — T. Gichev Nonstationary Singularities of a Completely Integrable Equation in First-Order Total	1202	1561
Differentials — É. I. Grudo	1210	1572
and T. K. Plyshevskaya	1218	1583
Nonstationary Essential Singularities — S. G. Kondratenya Nonself-Adjoint Abstract Differential Differential Operators with Discrete Spectra	1226	1593
- A. N. Kochubei	1233 1239	1601 1609
The Boundary of the Controllability Set of a Plane Holomorphic System		1010
- N. N. Petrov	1246	1618
Neutral Type - V. M. Polishchuk and A. N. Sharkovskii	1253	1627
PARTIAL DIFFERENTIAL EQUATIONS		
Estimates of Fundamental Potentials for High-Order Parabolic Equations - E. A. Baderko	1267	1646
The Asymptotic Properties of Solutions of the Equation $\mu^2 \Delta u - k^2(x, y)u = f(x, y)$ in a		
Rectangle - V. F. Butuzov	1274	1654
A Method of Solving Partial Differential Equations — V. M. Darevskii	1280	1661
Hyperbolic Equations - S. Elubaev	1289	1673
Diffraction of Electromagnetic Waves in a Cylinder at a Sphere - V. T. Erofeenko A Boundary-Value Problem in the Diffraction of Waves for a Region Bounded by a	1297	1683
Plane and the Surface of an Elliptic Cylinder — E. A. Ivanov and V. V. Makarova. The Smoothness of Eigenfunctions of a Compressed Plate near an Angular Point	1305	1693
- É. A. Pais Normal Hausdorff Solvability of a Nonlinear Problem - V. R. Portnov	1311 1316	1700 1707
BRIEF COMMUNICATIONS	2423	
Necessary Conditions for the Stability in the Large of the Zero Solution of a System of n Nonlinear Differential Equations Satisfying the General Routh-Hurwitz		
Conditions - L. I. Burganskaya	1324	1718

	Engl./	Russ.
No. 1997 Constitution of Makinkarantanal Standard Controls		
Necessary Conditions for Optimization of Multidimensional Singular Controls — S. Ya. Gorokhovik	1327	1721
Goursat's Problem on Gevrey Spaces – K. I. Kol'tsova	1330	1725
- M. M. Kopets	1332	1728
Some Boundary-Value Problems and Their Approximate Solution — V. S. Mokeichev The Set of Periodic Solutions of a System of Second-Order Differential Equations	1334	1730
without Dissipation - G. L. Yuzbashev	1337	1734
Volume 9, Number 10 October, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
On the Proof of the Maximum Principle for Objects with Continuous Time		
- V. G. Boltyanskii	1341	1747
- V. B. Kolmanovskii	1347	1754
and A. I. Yablonskii	1355	1765
- Yu. V. Malyshev	1363	1774
Differential Equations with Stationary Critical Singularities - I. P. Martynov The Evasion Problem in Differential Games with Nonlinear Controls	1368	1780
- E. F. Mishchenko and N. Satimov	1377	1792
Formulating Equations for Programed Motions - I. A. Mukhametzyanov Properties of O-Curves of First-Order Equations with Factored Right-Hand Side	1382	1798
- V. V. Nikonenko	1391	1810
- I. I. Pleshkan and K. S. Sibirskii	1396	1817
- V. F. Rozhko	1403	1826
PARTIAL DIFFERENTIAL EQUATIONS Correctly Posed Nonlinear Mixed Problems for Almost Linear Hyperbolic Systems on		
the Plane - V. N. Gol'dberg	1407	1831
- V. S. Klimov	1417	1845
The Method of ϵ -Quasisolutions for Equations of 1st Type - D. A. Liskovets On the Construction of Solutions, Optimal with Respect to Order of Approximation, to	1422	1851
Linear Conditionally-Correct Problems - V. N. Strakhov Diffraction of a Plane Sound Wave in an Angular Domain with Absolutely Hard and		1862
Slippery Faces Bounded by Thin Elastic Plates - A. A. Tuzhilin Smoothness of Generalized Solutions Close to Vertices of Polyhedral Angles	1442	1875
- A. F. Filippov	1453	1889
FINITE DIFFERENCE EQUATIONS		
Existence of Invariant Tori for a System of Difference Equations - A. M. Samoilenko, D. I. Martynyuk, and N. A. Perestyuk	1466	1904
BRIEF COMMUNICATIONS		
Comparison Functions for Solutions of a Nonlinear First Order Differential Equation — G. S. Krechetov	1472	1911
A Plane Mixed Heat Conduction Problem for a Wedge - L. Ya. Tikhonenko		
On a Theorem of N. E. Zhukovskij - A. Va. Khokhrvakov		1915

Volume 9, Number 11 November, 1973

ORDINARY DIFFERENTIAL EQUATIONS Differential Inequalities for Equations with a Delayed Argument - N. V. Azbelev,		
Yu. I. Zubko, and S. M. Labovskii	1481	1931
Discontinuous Right Sides — M. A. Amatov	1486	1937
— B. M. Arkhipov and A. Ya. Khokhryakov Differential Equations of Neutral Type Having Integrating Factors	1492	1945
- N. G. M. Vainberg, G. A. Kamenskii, and A. D. Myshkis	1501	1956
- A. G. Zarubin and M. F. Tiunchik	1509	1966
The Stabilization of a Countable System of Differential Equations — V. Ya. Egorov Determination of Controls for Programmed Motion Restricted by Free Relations	1516	1975
— I. A. Mukhametzyanov	1522	1983
- S. N. Olekhnik	1530	1994
The Pursuit Problem in Linear Differential Games — N. Satimov	1535	2000
A Second-Order Differential Equation of the Second Degree - L. P. Sulima	1543	2010
A Generalization of Lyapunov's Second Method — M. M. Khapaev PARTIAL DIFFERENTIAL EQUATIONS	1551	2020
Difference Schemes for Nonlinear Hyperbolic Equations, I - V. N. Abrashin The Lagrange-Charpit Method in the Bounded-Circle Three-Body Problem	1558	2029
- E. A. Grebenikov and M. N. Kiosa The Solvability of Dirichlet's Problem in $W_2^{(2l)}$ for an Elliptic Equation of Order $2l$		2041
- É. M. Saak The Second Boundary-Value Problem for a Fourth-Order Equation of Mixed Type in a		2048
Disk — M. M. Smirnov		2052
The Theory of Malyuzhints' Inhomogeneous Functional Equations — A. A. Tuzhilin	1580	2058
INTEGRAL EQUATIONS		
Convergence of Successive Approximations to and the Uniqueness of a Solution of a System of Integral Equations with Stationary Singularities — V. G. Ogandzhanya.	1585	2065
An Iterative Method of Solving the Integral Equation for a Third Boundary-Value	1303	2003
Problem - A. G. Ramm	1593	2075
BRIEF COMMUNICATIONS		
Oscillatory Properties of Solutions of Nonlinear Finite-Difference Equations	1507	2080
- Ya. V. Kykov and L. V. Zhivoglyadova		2082
Application of the Potential Method in the Solution of Boundary-Value Problems for a Type of High-Order Elliptic Equations in n-Dimensional Space	1000	2002
- I. G. Lobodzinskaya	1601	2084
The Algebraic Singularity of a Controllability Measure — V. M. Marchenko	1605	2088
- V. I. Matatov	1608	2092
Invariant Sets of an Equation System - N. N. Petrov	1611	2095
A Modification of Shilov's Method — E. G. Sadovnikov		2097
with Delay — V. Z. Tsalyuk		2099
PEOPLE OF SOVIET SCIENCE	1019	2102
Viktor Dmitrievich Kupradze (on His Seventieth Birthday) — A. V. Bitsadze,		
N. P. Erugin, and V. I. Krylov	1621	2105

	Engl./Russ.	
LETTERS TO THE EDITOR		
A Correction - V. Blagodatskikh	1627	2112
Volume 9, Number 12 December, 1973		
ORDINARY DIFFERENTIAL EQUATIONS		
One Critical Case in the Theory of the Stability of Motion — Yu. N. Bibikov On the Differentiability of Solutions with Respect to Initial Conditions	1629	2123
- V. I. Blagodatskikh	1640	2136
Systems with an Invariant Set - Yu. V. Malyshev	1644	2141
Second Order - S. N. Olekhnik	1648	2146
Dissipative System - S. Yu. Pilyugin	1653	2152
Condition - V. D. Ponomarev	1661	2162
- L. É. Reizin' and S. É. Cheran.	1665	2166
The Smoothness of the Bellman Function for the Linear Optimal-Control Problem - N. Satimov	1673	2176
Nonoscillation and the Number of Switchings in a Linear Nonstationary Time-Optimal System - E. L. Tonkov	1677	2180
PARTIAL DIFFERENTIAL EQUATIONS		
Difference Schemes of First-Order Accuracy for Quasilinear Hyperbolic Systems. II		
- V. N. Abrashin and P. A. Vakul'chik On a Method of Reducing Boundary Value Problems of Mathematical Physics to a	1682	2186
Mathematical Programming Problem - N. F. Ganzhela and V. L. Rvachev On Uniqueness Conditions for the Generalized Solution of the Cauchy Problem for a	1694	2202
Class of Quasilinear Degenerate Parabolic Equations - A. A. Kalashnikov Solution of a Class of Boundary-Value Problems with Mixed Boundary Conditions, Using	1698	2207
the Method of Defining States - B. M. Lisitsin and É. M. Lisitsin	1703	2213
A Finite-Difference Method for Abstract Hyperbolic Equations - V, A, Rastrenin INTEGRAL AND INTEGRODIFFERENTIAL EQUATIONS	1710	2222
Controlled Integrodifferential Operators - Yu. K. Lando	1714	2227
and L. F. Rakhmatullina	1718	2231
BRIEF COMMUNICATIONS		
Sufficient Conditions for the Oscillation of Solutions of Nonlinear Finite Difference Equations - Ya. V. Bykov and E. I. Shevtsov	1726	2241
Stability of a System Given by Differential Equations and Constraints of Equality Type - I. V. Gaishun	1729	2245
Structure of Matrices of the Coefficients of Linear Spherical Simultaneous Systems	1732	2248
- O. A. Kastritsa		
Estimate of Solutions of a System of Linear Difference Equations – V. P. Kuznetsov	1735 1739	2251 2255
Asymptotic Behavior of Solutions of Quasihomogeneous Differential Systems		
- N. N. Ladis	1741	2257
- V. N. Laptinskii	1745	2261
Coefficients - Kh. M. Malikov	1749 1751	· 2265
Dystems of Differential Equations without Movable Critical Singularities - V 1 Maratov	1101	6407

		Engl./ Huss.	
Stabilization of Linear Control Systems for Constantly Acting Perturbations			
- A. M. Meilakhs	1754	2270	
On Some Properties of Homogeneous Differential Systems - M. G. Okhrimenko	1757	2272	
integral Estimates of Fractional Derivatives of a Harmonic Function and Some of Their			
Applications - A. S. Fokht and V. A. Krasnov	1761	2276	
Properties of a Class of Degenerate Elliptic Systems of Second-Order Equations			
- R. M. Sharipova.	1765	2280	
The Minimum Number of Inputs of a Controlled System - B. Sh. Shklyar	1769	2284	
NDEX			
Author Index, Volume 9, Numbers 1-12, 1973	1773		
Tables of Contents, Volume 9, Numbers 1-12, 1973	1777		



